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A Developmental Study of Freudian and Cultural Symbolism.

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CULTURAL SYMBOLISM.

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A DEVELOPMENTAL STUDY OF FREUDIAN AND
CULTURAL SYMBOLISM

A Dissertation

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in

The Department of Psychology

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Kenneth Samuel Solway
B.A., M.A., Assumption University, 1962
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ABSTRACT

The empirical validity of psychoanalytic constructs are of the utmost importance for psychoanalytic practice and theory. In previous studies, the Freudian theory of sexual symbolism has not been fully substantiated. The purpose of the present research was to investigate the nature of the response to anatomically and culturally symbolic geometrical figures across various age groups.

Fifteen male and fifteen female subjects were selected to fit seven age levels; the mean of each age group was: 4.3; 5.6; 7; 9.6; 12; 15.2; 19.5 years. Subjects were seen individually, and shown forty geometrical figures, twice, in random orders. There were four groups of ten symbols: 10 symbols with anatomical or Freudian referents and no cultural referents; 10 symbols with congruent anatomical and cultural referents; 10 symbols with incongruent anatomical and cultural referents; 10 ambiguous symbols. Symbols used in this study, were selected from those employed by Lessler (1964). The number of correct responses per individual for each of the symbol groups was used as the criterion, or dependent variable. Data collected was submitted to a four factor analysis of variance, repeated measures design. Data collected for the Freudian symbol group only, was submitted to a similar statistical technique.

Results of these analyses indicated that only subjects in the oldest age group clearly responded to Freudian symbols in the manner suggested by Freud (i.e., elongated figures symbolized masculinity

and rounded figures symbolized femininity). Male anatomical symbols produced associations in agreement with Freudian theory significantly more than female anatomical symbols. Symbols with cultural referents, regardless of congruence or incongruence with anatomical referents, were recognized at a statistically significant level. Recognition of the cultural referent increased with age.

It was concluded that knowledge of the symbolizer's individual and cultural background should be considered, as well as Freudian theory in interpreting symbolic productions. Criticisms of methodology employed in research on Freudian symbolism were made, and suggestions for further research were offered.

CHAPTER I

INTRODUCTION

The empirical validity of psychoanalytic constructs are of the utmost importance for psychoanalytic practice and theory. For many years since inception, few empirical tests of Freudian hypotheses had been undertaken. The only 'real' test of their adequacy has been as a conceptual framework underlying its use by practitioners in the treatment of psychopathology. This was an area which until recently, had proved difficult in meeting the demands of experimental control. Recent years, however, have seen an increase in the volume of research in this area (Whiting and Child, 1953; Schonbar and Davitz, 1960; and Fisher, 1966), perhaps dictated by psychology's growing concern with the vagueness of hypothetico-deductive constructs, and psychology's shift toward operationalism.

An area of psychoanalytic theory which has received some experimental attention is that of the role of the symbol (Levy, 1954; Starer, 1955; Barker, 1957; Lessler, 1962, 1964). While there has been an implicit acceptance of Freud's postulations regarding symbols in the interpretation of projective materials, and dreams, some authorities (White, 1948; McClelland, 1955), have felt that Freud's hypotheses were incorrect.

Mikhalova (1961), viewed Freud's use of symbolism as a basis for the method of free association as "subjective and arbitrary,"

without experimental foundation. Reformed versions of psychoanalysis are handicapped by a continued reliance on symbolism as their principal means for explaining psychopathological phenomena. An objective, experimental, and clinical study of the psychopathological mechanisms of neurosis is thus a prime necessity (Mikhalova, 1961).

More recent testimony, however, supports the Freudian theory of symbolism. Erikson (1963), in his play therapy with children, notes:

The most significant sex difference was the tendency of boys to erect structures, buildings, towers, or streets, the girls tended to use the play table as the interior of a house with simple, little or no use of blocks. . . . If "high" and "low" are masculine variables, "open" and "closed" are female modalities.

Despite theoretical and empirical dispute many clinical psychologists have accepted the Freudian hypothesis and utilized it in their clinical interpretations, regardless of age or maturity of their subjects. Machover (1949) for example, posits that certain features of human drawings are representative of male and female genitalia. She assumes also, that this is applicable to children's drawings, as well as adult drawings. Similarly in taking projective tests, and in free associations, subjects will often produce responses, such as flower, butterfly, pot, chimney, tree and snake. Dynamic interpretations of these responses in terms of their shape or form have often been made.

This is not to say that stereotyped interpretations are necessarily made, or that the productions are considered out of context. In one case the absence of a chimney on a house, for example may be said to indicate that the individual feels

inferior to his father in terms of power and authority while in another this may be taken as a sign of feelings of sexual impotence. In either case, however, the object has been assumed to have a certain fixed symbolic relationship with reality, i.e., chimney=penis (Levy, 1954).

The present research will attempt to study the validity of the Freudian hypotheses regarding sex symbols (noted below), across various age groups. As recent evidence, (Lessler, 1964; Richardson, 1967), has indicated that responses to Freudian symbols are multi-determined, particularly with respect to a cultural or 'functional' response (i.e., a subject may respond to a broom stick, which is long and narrow, in a feminine way because of its cultural association with women), the present study also proposes to examine the nature of the cultural response to symbols across various age groups.

The primary questions which this study seeks to answer are:

- 1) Do subjects of various age groups respond to geometrical symbols in the manner which Freud hypothesized (genitalia will be represented by objects which are similar in shape to each genital)?
- 2) To what extent does the cultural or 'functional' aspect of the symbol override the hypothesized Freudian sexual response?
- 3) To what extent does age affect the predominance of either a cultural or sexual interpretation of the geometrical symbols?

Nature of Signs and Symbols

The present study is not designed to investigate the difference between 'sign' and 'symbol,' nevertheless, clarification of these terms appears relevant. Philosophers, theologians, anthropologists, and psychologists among others, have been concerned with the

nature of the difference between 'sign' and 'symbol' for many years, and one is impressed with the diversity of definitions available. Only a few viewpoints will be presented below.

Ernst Cassirer, a philosopher, in his writing, 'An Essay on Man' noted: "Any one concrete and individual sign refers to a certain individual thing . . . [in contrast]. A genuine human symbol is characterized not by its uniformity but by its versatility" (Cassirer, 1953).

Cassirer's main argument here, is that in early childhood and in primitive mentality there is a rigidity in the way that signs are related to their referents (i.e., where the relation is held to be one of logical equivalence); in more developed thought a symbol is something different from a sign, since the relation between the representation and its referent is not so simple. Proclaiming the symbol versatile, is a manner of saying, that independent of its usage, we have no idea of the referent of the symbol. It is thus, available to the ingenuity and versatility of interpreters (Philipson, 1963).

Suzanne K. Langer wrote concerning the sign, and the symbol: ". . . the genuine difference between sign and symbol. The sign is something to act upon, or a means to command action; the symbol is an instrument of thought" (Langer, 1948).

Langer, like Cassirer, maintained that signs or signals have specific things as their referents. These things are identifiable independent of any particular sign, but such knowledge serves primarily as a form of action. Symbols, on the other hand, do not have

things as referents, and the object of the symbol could not possibly become known except through some representation.

"A term which is used symbolically and not signally does not evoke action appropriate to the presence of its object. . . . Symbols are not proxy for their objects, but are vehicles for the conception of objects" (Langer, 1948).

Leslie A. White, an anthropologist, places the symbol at the heart of human culture.

"All human behavior originates in the use of symbols. It was the symbol which transformed our anthropoid ancestor into men and made them human. All civilizations have been generated, and are perpetuated, only by the use of symbols" (White, 1949).

White defined a symbol as a thing whose value or meaning is bestowed upon it by those who use it. The form of the symbol is infinitely wide; it may have the form of a material object, a color, a sound, an odor, and so on, however, the meaning or value of a symbol is never derived from or determined by properties intrinsic in its physical form. A sign, for White is a physical thing or event, whose function is to indicate some other thing or event; its meaning can be ascertained by sensory means. As soon as the referent of a symbol becomes known, it then becomes a sign, a sign that stands for something else, and is understood as meaning or referring to that thing.

A rather lengthy discussion of the 'symbol'-'sign' differentiation is presented by Lessler (1962). He concluded:

A sign signifies an object or event, but is unimportant in itself, and does not imply any meaning beyond the object or

event signified. A symbol, on the other hand, refers to more than the object, event or feeling for which it stands. For example, an abstract figure which is shaped similarly to a penis and elicits an association between the drawing and a penis, is a sign since no other meaning is implied. However, if the figure which looks like a penis signifies maleness, strength, sexuality, or repressed infantile fears of drives, then by definition it is a symbol (Lessler, 1964).

For purposes of this research, the following definitions of sign and symbol have been incorporated. These definitions were also used by Richardson (1967).

Sign

Something which stands for something else and is understood as meaning or referring to that thing, (e.g., a yellow light means caution, a bell means food for a hungry dog).

Symbol

Something which stands for something else but is not recognized as meaning or referring to that thing, (e.g., perceiving a gun on Card VI of the Rorschach may reflect the subject's sexual life, a dream in which a lake, ocean or river is depicted may in reality be referring to the dreamer's thoughts about childbirth or early infancy).

Since the present research concerns itself primarily with the psychoanalytic use of the terms 'symbol' and 'sign,' the Freudian and Jungian positions will now be presented in some detail.

Psychoanalytic Interpretations of Symbol Usage

- 1) Freud: Freud believed that certain ideas heavily charged

or invested with "affect" are constantly striving toward conscious recognition and awareness, and certain impulses are always pressing toward overt satisfaction and fulfillment. These emotionally charged ideas and impulses have been repressed and inhibited, however, they still remain active, and make their appearance in a disguised and distorted fashion. To accomplish this distortion, the ego uses various techniques or mechanisms: projection, displacement, disassociation, etc. The symbol because of its special suitability and its adaptability to the new contents of consciousness is also a mode of distortion.

The source of the symbolic content was, then, instinctual (Freud, 1953), in particular sexual and aggressive instincts. The symbol served as a distorted, disguised expression for repressed sexual and aggressive instincts. Freudians believe that a symbol functioned mainly to aid the forces of repression by keeping the referent of the symbol from awareness. According to psychoanalytic theory, the ego must control manifestations of the primitive impulses so as to allow maximum gratification, while at the same time adapting to environmental demands. The symbol itself is a compromise in which there is a partial expression of affect along with a socialization of content.

The relationship between the instinct referent, and its symbol was based on certain structural or functional similarities between them. The symbol-referent connection was, according to Freud, facilitated or associated by resemblance in shape, function, action, color, value, number, sound or many other variables (McClelland, 1955).

The male genital organ is symbolically represented in many different ways, in most of which the common underlying idea is readily apparent (Freud, 1953); the penis is symbolized primarily by objects which resemble it in form, being long and upstanding, such as sticks, umbrellas, poles, trees, and also by objects which, similar to the thing symbolized have the property of penetrating, and consequently of injuring the body (i.e., pointed weapons of all sorts: knives, daggers, lances, sabres).

Female genitalia are represented symbolically by all such objects as share with them the property of enclosing a space, or are capable of acting as receptacles, such as pits, hollows, caves, boxes, and so on.

2) Jung: "Those conscious contents which give us a clue as it were, to the unconscious backgrounds are by Freud incorrectly termed symbols. They are not true symbols, however, since according to his teaching, they have merely the role of signs or symptoms of the background processes" (Jung, 1928).

Jung indicated that the Freudian interpretation of 'symbol' is justified only if the Freudian general theoretical structure, to which the manifest content of the 'signs or symptoms' are reduced were to be proved adequate (Philipson, 1963).

"The true symbol differs essentially from this [symptoms] and should be understood as the expression of an intuitive perception which can as yet, neither be apprehended nor expressed differently" (Jung, 1928).

The source of symbolic content, for Jung, originated in the archetypes. Archetypes, refer to an inborn manner of apprehending feeling, intuiting, or thinking about subjects, such as life, death, femininity, masculinity. Archetypes taken together form what Jung referred to as the collective unconscious.

. . . every human being is born with a highly differentiated brain, which gives him the possibility of attaining a rich mental function that he has neither acquired ontogenetically nor developed. In proportion as human beings are similarly differentiated, the corresponding mental functions are collective and universal" (Jung, 1928).

Psychic energy underlying symbolic activities is derived from a superfluity of energy not required for the essential activities of the organism, which is capable of application over and above its natural uses (i.e., instinctual gratification). By means of the symbol excess psychic energy can be deflected. Mullahy (1953), in reviewing Jung's theory of symbols, refers to the symbol as a "libido analogue," a mental representation, a myth, rite, phantasy, dream image, etc., by virtue of which excess libido found a new form and path of outlet.

Jung's contention regarding the capacity of a symbol to represent future lines of personality development, especially the striving for wholeness represented, perhaps, Jung's most distinctive and original contribution to the theory of symbolism. The essence of this tenet is found below:

For the significance of a symbol is not that it is a disguised indication of something that is generally known but that it is an endeavor to elucidate by analogy what is as yet completely unknown and only in the process of formation (Jung, 1917).

Symbols as noted, are often seen in dreams, myths, fantasies,

and psychotic states; they are produced unconsciously and cannot be contrived or consciously thought out (Jung, 1928). To understand the meaning of a symbol, Jung (1956), advocated the use of a "functional" analysis. In a "functional" analysis, a thing is explained in terms of what it does or strives to do (i.e., what functions it serves), rather than in terms of its structure, or in terms of the elements which have caused the occurrence of a thing.

In brief summary, symbols according to Jung are the (objectified) effects of the archetypes of the collective unconscious, activated by the psychic energy diverted from or in excess to the natural functions systems (Philipson, 1963). In contrast to the Freudians, Jung (1925, p. 249) believed that there is ". . . no fixed significance of things," for the symbols of the unconscious, and that no given object or figure necessarily has the same significance in one dream as it does another. With respect to even the universal archetypal symbol, the mana symbol, Jung listed a number of differently shaped objects in which it could be symbolized, such as the bull, ass, pomegrante, yoni, horse's hoof, dance, and lightening. Thus Jung implied that symbol characteristics themselves are not important in determining meaning attributed to them. If this is in fact, the case then the only true interpretation of the symbol, must arise from the symbolizer, and from the environment in which the symbolizer finds himself. Freud, on the other hand, though he cautioned that one's understanding of the symbolizer must be used for accurate interpretations (Freud, 1954, p. 158), believed that symbols could often be interpreted without reference to the symbolizer.

Background of Related Research

The conflicting theoretical discussion of the validity of the Freudian symbolism hypothesis is further reflected by empirical findings in this area. Levy (1954) reported that the results of his experiments with 62 normal fifth grade children (32 male and 30 female) did not support the Freudian hypothesis of sexual symbolism. Levy's experimental task involved the matching of 10 names (5 male and 5 female), with 10 geometrical designs (5 elongated and 5 rounded). Starer (1955), however, reported a similar experiment with 64 male psychotic subjects, 48 female psychotic subjects and 30 student nurses in which the results gave strong support to this same Freudian hypothesis. Stennett and Thurlow (1959), using sets of stimulus figures employed by both Starer and Levy, with 20 psychotic adults, 10 male and 10 female, and 25 university students, 15 male and 10 female, interpreted the results of their research as confirming Starer's findings.

As a second part of their research, Stennett and Thurlow (1959), attempted to explain the differences between the findings of Starer and Levy:

Since a group-testing procedure was used with both Levy and Starer figures in a statistically significant manner, differences in the stimulus figures cannot be responsible for the discrepant results in the Levy and Starer studies. The variable of age, therefore, assumes crucial importance. This suggests that a careful developmental study of sexual or cultural symbolism would reveal data of considerable theoretical importance. Practical considerations in routine projective testing of children are obvious.

Studies of Freudian Symbolism with Age as an Independent Variable

Studies by Jacobs (1954), Starer (1955), Jones (1956, 1961),

Winter and Prescott (1957), and Lessler (1962, 1964), found that adult subjects tended to identify elongated objects as male, and rounded objects as female, demonstrating that symbol meanings are predictable with a variety of adult population samples in our culture. These results however, were not consistent with the results of similar studies, using younger age groups.

Barker's (1957) experiment was also concerned with the Freudian hypothesis that certain objects have an inherent sexual meaning on the basis of form. In addition Barker investigated an additional hypothesis relating cultural interpretations, rather than sexual ones to object forms. As Barker's study has been perhaps the most comprehensive study performed in this area, it is discussed in detail below.

Barker's experimental materials consisted of 40 cards, each containing a line drawing of an object. Thirty cards pictured objects categorized by Freud as sexual symbols, 10 of these objects were judged to be of low cultural sexual significance, and 20 objects to the category of high cultural sexual significance. The remaining 10 cards were ambiguous stimuli with no appreciable cultural or sexual significance.

Subjects in Barker's study were 60 children divided into three groups of "pre-latency," "latency," and "post-latency" ages. Each child was seen individually, and all received an initial test followed by a retest one month later. Four and five-year-old subjects were presented with each card and asked, "Does it seem more like a boy or a girl, a mommy or a daddy?" Older subjects were told that the cards

represented characters for a children's story. They were asked to help the author select the characters by telling, for each card, if it "seems more like a boy or a girl, a mother or a father."

The results of this research failed to confirm the Freudian hypothesis of fixed symbolism. Age groups differed only in respect to four- and five-year-old children's lower ability to rate sexual symbols with high cultural meaning. Barker concluded:

These results were seen as suggesting that interpretations of behavior based upon the assumption of a universal relationship between form and symbolic meaning are open to serious question. The data was further interpreted as indicating that cultural meaning is a relevant determinant of children's perception of sexual symbolism (Barker, 1957).

Following Barker's study, it might have been anticipated that future researchers would have considered the cultural variable in studying Freudian symbolism, however, this was generally, not the case.

Acord (1962) administered 10 geometrical designs (5 with male and 5 with female hypothesized sexual referents), to 305 subjects (Grades 3, 6, 9, 12 and a group of adults). Subjects were tested in groups according to age, and told to write the first name that came to their mind, on seeing the design. Acord found that correct matchings to sexual symbols differed significantly from chance, only in the two older groups. Also the two older groups combined produced a mean number of correct matchings significantly greater than the three younger groups combined. Acord interpreted his findings as indicating that as age and sexual maturity increase, there is a concomitant increase in overt concern with sexual matters, and hence greater accuracy of matching symbols with the Freudian sexual referent.

Jones (1961) administered 9 of the geometrical figures used by Levy (1954), and one figure of his own, to 5 groups of subjects; the mean ages of the groups were 8.5, 10.5, 12.3, 14.4 and 15.5 years. Figures were reproduced in black ink on individual white cards, and individually administered to each subject. Subjects were required to respond within approximately 2 seconds. The mean frequency of sexual symbolic response was 66% for children approximately 4 years prepubescent. By the age of puberty or a year or two beyond, however, responses had dropped sharply to about chance expectancy. Comparison of this data with adult data derived from a previous study (Jones, 1956) showed a significant increase in sexual symbolic response in young adult years over the highest frequency obtained in any of the prepubescent years. Jones interpreted his results as a function of increase in sexual drive, leading to poor discrimination in preadolescent groups, and increased discrimination training implicit in the highly focused social control of adolescent sexual behavior, leading to increased discrimination in adult groups.

Lessler (1962) required 3 groups of 40 subjects, 20 male and 20 female, with mean ages of 9.4, 14.4, and 20.2 years, individually, to sort 20 previously judged psychoanalytic symbols into two piles. Two labels, representing the 2 piles were placed in front of each subject. On one label was printed, "father, brother, boy, man," and on the other, "mother, sister, girl, woman." Lessler's data supported his predictions, based on Freudian theory that elongated and pointed objects would be sorted into a male category, and rounded or

containing objects into a female category. In his study, subjects of both sexes in all groups identified structured symbols in a manner consistent with the Freudian hypothesis.

In the studies reviewed, with the exception of Barker (1957) and Levy (1954), results generally consistent with Freudian theory were obtained, however, no consideration was given to Barker's evidence that response to a symbol might be complex and multi-determined. There was no control in these studies, hence, for the cultural referents of the symbols employed.

Lessler (1964), and Richardson (1967) have subsequently controlled for the cultural variable, and results of their research with college students have supported both Barker's earlier research, and the Freudian hypothesis.

The results supported the hypothesis that sexual symbols are complex rather than simple stimuli, and that the sorting of the symbols would be consistent with the cultural referent when it was discernible and with the Freudian referent when the cultural referent was minimized. The Freudian symbol referent also affected the sorting of symbols with obvious cultural meanings (Lessler, 1964).

Lessler's (1964), and Richardson's (1967) results conflicted with those of Barker (1957) however, in that the former found that when cultural response factors were minimized, subjects responded in agreement with the Freudian hypothesis, Barker's study (1957) had not confirmed this. Since the predominant difference in these studies was in the age of the subjects, a developmental study of differential responses to symbols appears needed.

Lessler has attempted such a developmental study using

children in grades one through six. He reported:

The group just studied was well aware of the cultural aspects of symbols as early as the first grade. There was some erratic, but nonetheless apparent awareness of male anatomical symbols in some age sex groups. Female anatomical symbols were not recognized as female by any of the age sex groups. . . . It seems to me one should both start earlier and more later in age groups to get a picture of just how and when children's perceptions of symbols change (Lessler, 1967, personal communication).

Sex of the subject, in the sorting of symbols with agreed upon Freudian meaning, will also be considered. Lessler (1964) using college students as subjects, reports that male subjects sorted symbols with female Freudian referents better than the female subjects, and the female subjects sorted symbols with male Freudian referents better than did the male subjects, although no statistically significant differences were found. Richardson (1967) noted that all subjects (i.e., white and Negro college students) tended to identify all symbols beyond the .001 level, but also stated there was a trend for subjects of each sex to identify symbols of the opposite sex better.

Statement of the Problem

The purpose of the present study is to investigate the nature of the response to symbolic stimuli across various age groups. The ambiguity of the cultural meaning, and the congruity between the Freudian and cultural referents of the symbols will be systematically varied. The main hypotheses to be investigated are given below:

- 1) All age groups will associate masculinity to sexual symbols which resemble male genitalia, and femininity to sexual symbols

which look like the female genitals, given that cultural associations are not sufficiently in evidence (The Freudian Hypothesis).

2) All age groups will associate to the cultural referent of a symbol regardless of its anatomical similarity, if the cultural cues are available (The Cultural Hypothesis).

3) It is anticipated that the cultural association noted in hypothesis 2 will show statistically significant increases with age.

4) In all age groups, when the Freudian referent is similar to the cultural referent symbols will be sorted more consistently with respect to the cultural referent, than when there is a conflict of referents.

5) Within all age groups, to a statistically significant degree, more males will associate femininity to female sex symbols than females.

6) Within all age groups, to a statistically significant degree, more females will associate masculinity to male sex symbols than males.

CHAPTER II

METHOD

Subjects

Subjects for all age groups except the youngest and oldest age groups, were students at a combined Catholic elementary, junior high, and high school. The youngest group was selected from a number of Church and private nursery school settings in Baton Rouge; the oldest group was composed of undergraduate university students. Subjects were selected to fit seven age levels; the mean age of each group in years was 4.3, 5.6, 7, 9.6, 12, 15.2, 19.5. These groups will be referred to in the study as age groups 1 through 7, from the youngest to the oldest age group. All subjects with the exception of the youngest age group, and some members of the oldest age group had attended Catholic schools throughout their educational background, thus sharing at least some environmental experience. Since Catholic schools are private, and a tuition is assessed, it was further assumed that virtually all subjects have at least a lower middle-class background, and accordingly, have had the opportunity to come into contact with the rather simple cultural stimuli used in this study. This was also true for the youngest, nursery-school group.

No subject was included in the study who demonstrated signs of subnormal intelligence. School records and teachers were consulted and in questionable cases, these subjects were automatically excluded from the study.

Materials

Symbols used in this study were selected from those employed by Lessler (1964). Lessler determined Freudian symbol referents by obtaining a consensus of individuals who were familiar with the Freudian interpretation of symbols. In order to establish the cultural referent of each symbol, symbols were presented to three general psychology classes who were asked to identify what the figures resembled. Next nouns describing these symbols were presented to another general psychology class for identification as male or female.

Four groups of 10 symbols were chosen:

- Group I Symbols with Freudian referents (5 male and 5 female), but no cultural referents.
- Group II Symbols with congruent Freudian and cultural referents (5 male and 5 female).
- Group III Symbols with incongruent Freudian and cultural referents (i.e., 5 male Freudian, culturally female symbols and 5 Freudian female, culturally male symbols).
- Group IV Ten symbols with no agreed upon cultural or Freudian referents. Nine of these symbols were not significantly rated as being either cultural or Freudian, or male or female categories by subjects in Lessler's study (1964). One of these symbols, the number '9' was used as an ambiguous symbol by Barker (1957).

Symbols are reproduced in Appendix I.

Procedure

Subjects were seen individually. Symbols were printed in India ink on 3x5 white cards. Younger subjects (under 10) were presented with each card in a random order and asked, "Does it seem more like a boy or a girl, a mommy or a daddy?" (Barker, 1957).

Older subjects (over 10) were told that the figures would be used to represent characters in a children's story. They were requested to help the author select appropriate figures by telling for each card, if it "seems more like a boy or a girl, a mother or a father?" (Barker, 1957).

Subjects were told to respond as quickly as possible, and a 5 second time limit was placed on their responses.

To control for effects of order of presentations and to assess symbol reliability, symbols were presented twice, in random order, to each subject. The same orders of symbol presentation were, however, given for each subject.

Statistical Analysis

To test the main hypothesis put forward in this study a four factor analysis of variance (7 (age groups) x 2 (sex groups) x 4 (symbol groups) x 2 (blocks) with repeated measures on the last two factors was employed. The number of correct responses per individual for each of the symbol groups was used as the criterion, or dependent variable. The culturally determined response was considered correct in the symbol group which contained incongruent Freudian and Cultural

referents. The correct response to the ambiguous symbols was arbitrarily defined by randomly selecting 5 symbols as male and 5 symbols as female, using a table of random numbers.

To test the supplementary hypothesis concerning specifically the Freudian symbols, a four factor analysis of variance 7 (age groups) $\times 2$ (sex) $\times 2$ (symbol groups) $\times 2$ (blocks) design with repeated measures on the last 2 factors was employed. Duncan Multiple Range tests (1955) were employed to further analyze significant effects.

In addition to the above, Pearson Product Moment Correlation Coefficients were obtained between block 1 and block 2 scores. These were computed over all subjects, and for the subjects in each age group, each symbol group, and each sex group.

CHAPTER III

RESULTS

Main Analysis

Results of the main analysis of variance are shown in Table I. Two main effects (age group and symbol groups), and one interaction effect (age group x symbol group), proved significant at the .01 level of significance. No other main effect or interaction approached statistical significance.

TABLE I
ANALYSIS OF VARIANCE FOR DIFFERENCES IN RESPONSES
TO 4 SYMBOL GROUPS

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F Ratio	Degs. of Freedom
1 Betw. S's	1418.28	209	6.79	0.00	209&000
2 Age	515.94	6	85.99	* 20.11	6&196
3 Sx	11.67	1	11.67	2.73	1&196
4 Age x Sx	52.77	6	8.80	2.06	6&196
5 Residual	837.90	196	4.28	0.00	196&000
6 Sym.	5915.98	3	1971.99	*645.87	3&588
7 Age x Sym	399.52	18	22.20	* 7.27	18&588
8 Sx x Sym	1.07	3	0.36	0.12	3&588
9 Age x Sx x Sym	38.12	18	2.12	0.69	18&588
10 Error	1795.31	588	3.05	0.00	588&000
11 Blks.	2.59	1	2.59	1.51	1&196

TABLE I (Continued)

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F Ratio	Degs. of Freedom
12 Age x Blks	6.40	6	1.07	0.62	6&196
13 Sx x Blks	0.04	1	0.04	0.22	1&196
14 Age x Sx x Blks	6.54	6	1.09	0.63	6&196
15 Error	336.94	196	1.72	0.00	196&000
16 Sym x Blks	0.61	3	0.20	0.12	3&588
17 Age x Sym x Blks	30.76	18	1.71	1.04	18&588
18 Sx x Sym x Blks	1.20	3	0.40	0.24	3&588
19 Sym x Age x Sx x Blks	15.86	18	0.88	0.54	18&588
20 Error	965.07	588	1.64	0.00	588&000

*Significant at .01 level of confidence

Age Group Effect. A plot of the mean number of correct responses by each age group is provided in Figure 1.

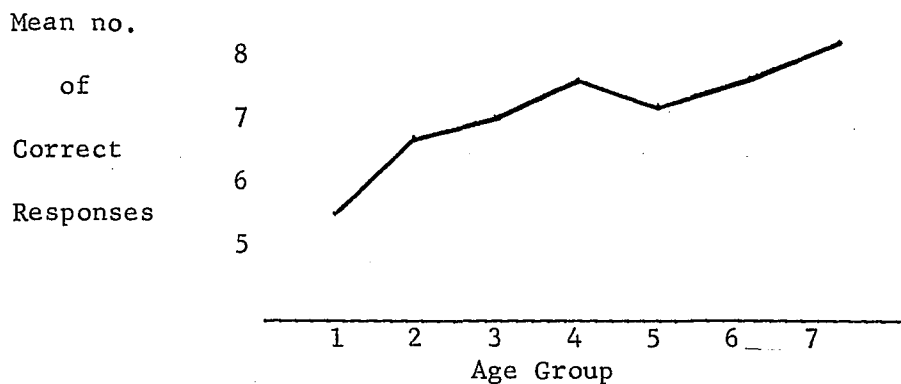


Figure 1. Mean Correct-Responses by Each Age Group to All Symbol Groups.

Examination of this plot reveals a progression in the number of correct symbol associations for all symbol groups combined, from age group 1 to age group 7. There is a rapid progression in the number of correct associations from age group 1 to age group 4, after which the plot remains generally flat. This early rapid acceleration is primarily due to an increase in the number of correct associations to the cultural determinants in symbol groups 2 and 3 from age group 1 through age group 4, after which all age groups respond to the cultural determinant with approximately 90% accuracy.

Symbol Group Effect. The second significant effect was the symbol group effect. The mean number of correct associations to each symbol group were: symbol group (1) 5.55; symbol group (2) 9.20; symbol group (3) 8.78; symbol group (4) 4.91. Orthogonal comparisons (Table II) of these means revealed them to be significantly different from each other.

TABLE II
ORTHOGONAL COMPARISONS OF MEAN CORRECT RESPONSES
TO SYMBOL GROUPS

	Sum of Squares	df	MS	Fratio	Level of Significance
1 and 4 vs 2 and 3	5757.20	1	-	*1885.60	.01
1 vs 4	121.90	1	-	* 39.93	.01
2 vs 3	36.88	1	-	* 12.08	.01
Error	1795.31	588	3.05		

Combining the means of symbol groups 1 and 4, and the means of symbol groups 2 and 3, orthogonal comparisons revealed these two units to also be significantly different from each other.

Although the mean number of correct responses to symbol group 1 is significantly different, statistically, from the mean number of correct associations to symbol group 4, this difference is small in terms of raw numbers (.64), and its significance is affected by the large $N(420)$ employed in this study. In addition, most of the variance in symbol group 1 is a result of the increased sexual symbolic response by age group 7. Full acceptance of Freudian theory, regarding the universality of fixed symbol, thus, does not appear warranted on the basis of statistical evidence. Forty percent of the population studied received a score at chance probability level or below. Similarly, the statistically significant difference between means of group 2 and 3 is small in terms of raw number (.42), and theoretical conclusions regarding this difference do not appear warranted.

Age x Symbol Interaction Effect. The remaining significant effect in the main analysis was the age x symbol interaction, the means of which are given in Table III, and plotted in Figure 2. Curves for symbol groups 1 and 4 as opposed to symbol groups 2 and 3 are almost the same (Figure 2). The significance of the interaction is caused by the differences in trend over the first three age groups, where the curves for symbol groups 2 and 3 increased while the curves for symbol groups 1 and 4 held constant.

TABLE III
MEAN CORRECT RESPONSES OF AGE GROUPS
TO EACH SYMBOL GROUP

		Symbol Group			
		1	2	3	4
Age Group	1	5.3	7.1	6.3	5.1
	2	5.2	9.0	8.5	4.7
	3	5.6	9.2	8.8	4.8
	4	5.4	9.8	9.4	5.1
	5	5.5	9.9	9.5	4.5
	6	5.5	9.5	9.5	4.9
	7	6.5	9.8	9.4	5.2

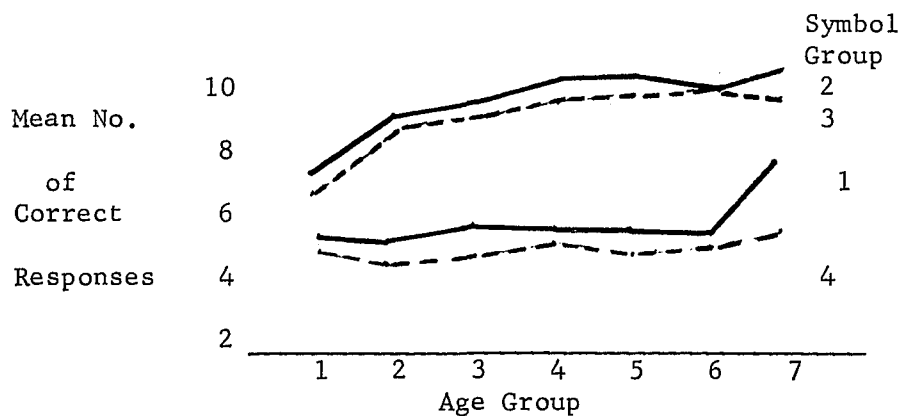


Figure 2. Mean Correct Responses of Age Groups to Each Symbol Group.

Table III revealed that all age groups responded correctly to the cultural sexual referent regardless of the presence of an incongruent anatomical shape as predicted in Hypothesis 2. There is also, an increasing use of the cultural sex referent with age as predicted in Hypothesis 3, the greatest increase being found between age group 1 and age group 2. Hypothesis 4 which stated that when the Freudian referent was similar to the cultural sex referent, symbols would be sorted more consistently with respect to the cultural referent, than when there was a conflict of referents, was also verified as seen in Table III, and in the significance of the orthogonal comparison between symbol groups 2 and 3, shown in Table II. This difference however, as indicated previously was not large in terms of raw numbers.

The Freudian hypothesis (Hypothesis 1 in this study) was less clearly substantiated in this analysis. Although all age groups associated correctly to the Freudian symbols at a rate above chance (5) level, only age group 7 received a mean score of 6 or above. In addition, in all age groups, the standard deviation of this mean was quite elevated and was much larger than the standard deviations of the other symbol group response means. Table IV revealed that when the mean correct response of each age group to the Freudian symbols increased, the standard deviation of the mean also increased.

Mean number of correct responses by each age group to the ambiguous symbol group (Table III) revealed little variability, or age trend, suggesting that responses to the ambiguous symbols were indeed ambiguous and random.

TABLE IV
MEANS AND STANDARD DEVIATIONS OF AGE GROUP
RESPONSES TO FREUDIAN SYMBOLS

Age Group	Mean	S.D.
1	5.3	1.49
2	5.2	1.73
3	5.6	1.63
4	5.4	1.61
5	5.5	1.48
6	5.5	1.40
7	6.5	1.94

Block Effect. Neither the overall block effect, nor any of the interactions involving blocks proved significant. Responses to the symbols used in this study are thus considered to be reliable or consistent over the two trials.

Supplementary Analysis

Results of the supplementary analysis of variance investigating the responses to the Freudian symbol group only are presented in Table V. Two main effects (age group and symbol group), and two interaction effects (Sex x Symbol and Symbol x Blocks) reached statistically significant levels.

TABLE V
ANALYSIS OF VARIANCE FOR DIFFERENCES IN RESPONSE
TO THE FREUDIAN SYMBOL GROUP

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F Ratio	Deg. of Freedom
1 Betw. S's	431.37	209	2.06	0.00	209&000
2 Age	30.03	6	5.01	** 2.54	6&196
3 Sx	0.04	1	0.04	0.02	1&196
4 Age x Sx	14.79	6	2.47	1.25	6&196
5 Error	386.50	196	1.97	0.00	196&000
6 Sym	144.17	1	144.17	*40.59	1&196
7 Age x Sym	44.90	6	7.48	2.11	6&196
8 Sx x Sym	31.24	1	31.24	* 8.80	1&196
9 Age x Sx x Sym	33.42	6	5.57	1.57	6&196
10 Error	696.13	196	3.55	0.00	196&000
11 Blks.	0.02	1	0.02	0.03	1&196
12 Age x Blks	4.55	6	0.76	1.03	6&196
13 Sx x Blks	0.80	1	0.80	1.09	1&196
14 Age x Sx x Blks	2.36	6	0.39	0.53	6&196
15 Error	144.63	196	0.74	0.00	196&000
16 Sym x Blks	2.74	1	2.74	** 4.12	1&196
17 Age x Sym x Blks	3.19	6	0.53	0.86	6&196
18 Sx x Sym x Blks	0.12	1	0.12	0.19	1&196
19 Age x Sx x Sym x Blks	5.08	6	0.85	1.36	6&196
20 Error	122.67	196	0.62	0.00	196&000

* significant at .01 level of confidence

**significant at .05 level of confidence

Age Effect. The first significant effect was the age group effect. Associations to symbols consistent with the Freudian hypothesis, in general, increased with age. A plot of age group means shown below in Figure 3 revealed the means of age group 3 to 6 formed a plateau; means of age groups 1 and 2 fell below the plateau (i.e., less 'correct' associations), and the mean of age group 7 fell above the plateau (i.e., more 'correct' associations). Results of a Duncan Multiple Range Test applied to examine trends among means are shown in Table VI.

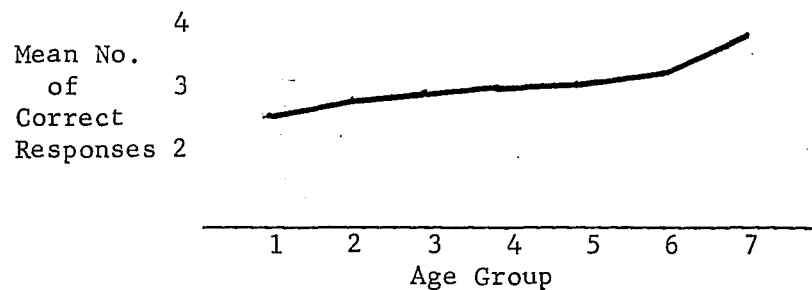


Figure 3. Mean Correct Responses by Each Age Group to the Freudian Symbol Group

The mean of age group 7 showed significant differences from all other age groups. The age effect thus appeared to be due primarily to the variance of this age group.

TABLE VI
DUNCAN'S MULTIPLE RANGE TEST APPLIED TO MEANS OF
AGE GROUP RESPONSES TO THE FREUDIAN SYMBOL GROUP

	(1) A	(2) B	(3) C	(4) D	(5) E	(6) F	(7) G	(8) Shortest Significant Ranges
Means	2.62	2.68	2.72	2.76	2.77	2.80	3.24	
A. 2.62		.06	.10	.14	.15	.18	.62	$R_2 = .36$
B. 2.68			.04	.08	.09	.12	.56	$R_3 = .38$
C. 2.72				.04	.05	.08	.52	$R_4 = .39$
D. 2.76					.01	.04	.48	$R_5 = .40$
E. 2.77						.03	.47	$R_6 = .40$
F. 2.80							.44	$R_7 = .41$

A	B	C	D	E	F	G
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Any two treatment means not underscored by the same line are significantly different.

Any two treatment means underscored by the same line are not significantly different.

Symbol Effect. The second significant main effect was the symbol effect. Significantly more male Freudian symbols were responded to in agreement with the Freudian hypothesis, than female Freudian symbols (Figure 4). There was a less than chance probability (2.5) of the female Freudian symbols being responded to in the hypothesized direction. The age x symbol interaction breakdown of means, although not significant in terms of the overall analysis of variance,

indicated that this differential response to male and female Freudian symbols was consistent for all age groups.

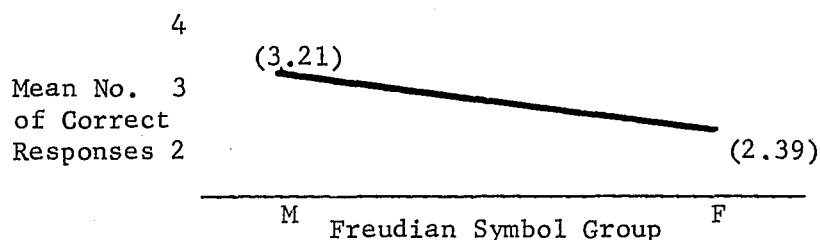


Figure 4. Mean Correct Responses to Male and Female Freudian Symbols.

The greatest difference was found in the oldest age group, where an average of 4.02 of the Freudian male symbols were correctly matched, and an average of 2.47 of the Freudian female symbols were responded to as female. In only 2 age groups (age group 1, and age group 3) were female Freudian symbols responded to as female above a chance level (2.53, and 2.70 respectively), whereas all age groups responded to male Freudian symbols as male above chance level.

Sex x Symbol Interaction Effect. The first significant interaction effect in the supplementary analysis of variance was the sex x symbol interaction (Figure 5). The plot of this interaction effect revealed that both male and female subjects associated to male Freudian symbols in the hypothesized direction more frequently than they associated to female Freudian symbols in the hypothesized direction. However, more of the males' responses were given in the hypothesized direction to male Freudian symbols than females'

responses, and more of the females' responses were given in the hypothesized direction to female Freudian symbols than males' responses.

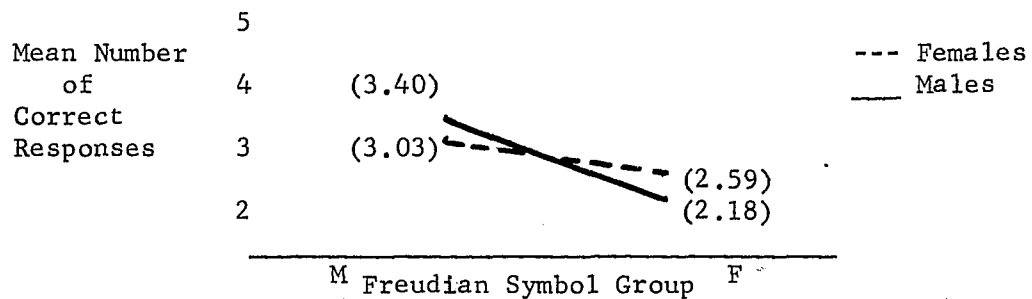


Figure 5. Mean Correct Responses of Each Sex to Male and Female Freudian Symbols.

Only males' responses to female Freudian symbols were below chance level. The age x symbol x sex interaction breakdown revealed that although males continued to respond to female Freudian symbols in a male direction, females in the oldest age group responded to both male and female Freudian symbols in the hypothesized direction.

Both Hypothesis 5 and 6, which stated that subjects of each sex would associate more correctly to sexual symbols of the opposite sex, than members of the same sex as the symbol were not confirmed. It appeared that the opposite effect took place, i.e., more males than females associated correctly to the male symbols, and more females than males associated correctly to the female sexual symbols. Only in age group 6 were there more female than male correct responses to male sexual symbols, and only in age groups 3 and 6, were there more male than female correct responses to the female sexual symbols.

Symbol x Block Interaction Effect. The second significant interaction effect was the Symbol x Block Interaction. The two plots in Figure 6 indicated: 1) in both blocks, male Freudian symbols were more correctly responded to in the hypothesized manner, than female Freudian symbols, 2) this difference was accentuated in Block 2, as responses consistent with the Freudian hypothesis to male Freudian symbols increased in Block 2, while responses consistent with the Freudian hypothesis to female Freudian symbols decreased in Block 2. These interaction differences were not great, however, in terms of raw numbers, and the statistical significance of the interaction may have arisen in part because of the large sample (210).

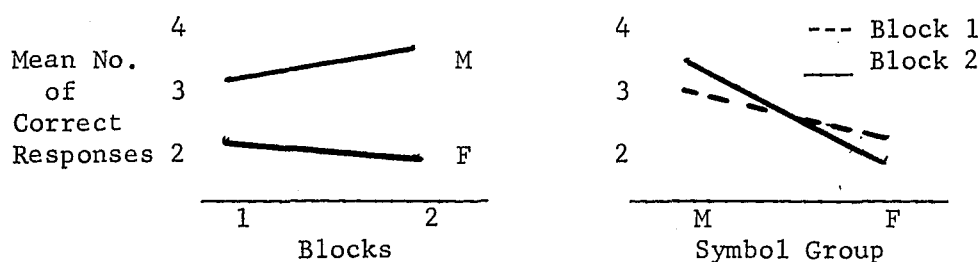


Figure 6. Mean Correct Responses to the Freudian Symbol Group Over Two Blocks.

Correlations

The overall Pearson Product Moment Correlation coefficient between Block 1 and Block 2 was .80 which was significant beyond the .01 level of confidence. Similar correlations applied to individual sex groups and symbol groups over the two blocks all proved significant beyond the .01 level of confidence. Responses to the symbols used in this study were therefore considered to be reliable.

TABLE VII

PEARSON PRODUCT MOMENT CORRELATIONS OF RESPONSES OVER 2 BLOCKS
BY AGE GROUP, SYMBOL GROUP, AND SEX

Correlation Coefficient*	
Age Group 1	.49
" " 2	.87
" " 3	.79
" " 4	.63
" " 5	.87
" " 6	.88
" " 7	.93
Symbol Group 1	.44
" " 2	.66
" " 3	.67
" " 4	.28
Sex Group Males	.76
Females	.83

r .23 is significant
at the .01 level

r .18 is significant
at the .01 level

r .13 is significant
at the .01 level

*All correlation coefficients were significant beyond the .01 level
of confidence.

CHAPTER IV

DISCUSSION

The results given in Chapter III revealed:

(1) All age groups responded to either elongated or rounded geometrical figures in a manner somewhat consistent with Freudian theory, which states that elongated, pointed objects are used to symbolize masculinity, and rounded, containing objects are used to symbolize femininity. These results were seen equivocally, however, for all age groups except the oldest one, since all other age groups responded to the geometrical figures in the hypothesized direction with just slightly above 50% accuracy, and since, the statistical significance of the overall response was inflated by the large sample tested (420).

(2) Subjects in all age groups responded to the cultural cues in geometrical figures, which were selected to suggest cultural sex roles, such as a lady's purse, regardless of the resemblance of the shape of the figure to human sexual anatomy (i.e., elongated or round). This response to the culturally designed figures or symbols increased with age, although after age 7, all age groups responded to these symbols with 90% or above accuracy. Differences between two symbol groups, one in which the Freudian or anatomical referent was congruent with the cultural referent, and the other in which the Freudian or anatomical referent was incongruent with the cultural referent, although statistically significant, was quite small in

terms of raw numbers, and thus was also affected statistically by the size of the sample tested (420).

(3) Subjects of both sexes responded more in accordance with Freudian theory to the elongated (male) geometrical figures than to the rounded (female) geometrical figures. In addition, males associated more in accordance with Freudian theory than females to the elongated (male) symbols, and females associated more in accordance with Freudian theory than males to the rounded (female) symbols.

The spurious nature of the responses to the elongated or rounded (anatomical) symbols under age 17 is consistent with previous findings in young age groups (Levy, 1954; Barker, 1957; Jones, 1961; Acord, 1962; and others). Similarly, the more definitive responses, consistent with Freudian theory given by the age group comprised of older adolescents, supports previous research (Jones, 1956; Acord, 1962; Lessler, 1962, 1964; Richardson, 1967). Many of the studies cited, however, particularly those involving younger adolescents and children, did not eliminate the possible cultural referents of the geometrical figures employed to test the Freudian theory, making comparisons between studies somewhat inappropriate. Barker's study (1957), and the present study, however, in which cultural factors were eliminated, provide empirical evidence which fails to substantiate the universality of sexual symbolism in Freudian theory, with respect to individuals under the age of 16. In addition, there was little evidence to suggest variation with age in the sexually symbolic response, as might be anticipated from Freud's theory of

psychosexual development (i.e., latency age children (7 to 10 years of age), did not tend to produce less sexually symbolic responses than adolescents from 12 to 15 years of age).

There was also no evidence to suggest that the sex of the examiner affected the responses of subjects to the geometrical figures used in this study as has been suggested by Ruth Munroe (1955). Although subjects responded more in association with Freud's theory of sexual symbolism to the elongated geometrical figures, indicating that more masculine than feminine responses were made to the Freudian symbols, the number of masculine and feminine responses to the ambiguous symbol group were equally divided; in fact, the number of female responses slightly exceeded the number of masculine responses.

Observation of children in the youngest age group as they responded to the geometrical symbols used in this study led the examiner to question their understanding of the nature of the task. This appeared particularly evident when the figures did not contain a cultural referent. Some of the children perseverated one particular gender response, or alternated sex responses to both the Freudian and ambiguous symbol groups. Although the validity of results for the younger age groups is somewhat questionable, groups of children, only one or two years older did not develop similar response patterns, and were also unable to consistently associate to geometrical figures in the manner suggested by Freudian theory.

It is not likely that the length of reaction time (Richardson, 1967) for each response allowed sufficient time for subjects to erect

defenses against the overt expression of sexual impulses. All subjects were given instructions to respond quickly, and the Examiner administered the symbols rapidly to further encourage rapid responses by the subjects. In very few instances did the length of reaction time exceed three to four seconds.

Subjects in all age groups except the youngest and oldest age group were students in Catholic schools. It is possible that the absence of a large number of sexually symbolic responses in these groups was related to that particular sub-culture, which attempts to avoid and inhibit material of a sexual nature. This might also help to explain the increased sexually symbolic response in the oldest age group, not all of whom were at any time, students in Catholic schools.

Although subjects did not respond in a consistent manner to the Freudian or anatomical referent in symbol group 1, subjects in all age groups and both sex groups did respond consistently to the cultural sex referent in symbol groups 2 and 3. The magnitude of this response was observed to increase with age, particularly from age group 1 through age group 2. It was also apparent that when a symbol has a clearly identifiable cultural sex referent, subjects will use this as the basis for their gender association, regardless of its incongruence with an anatomically based sexual referent, although the consistency of the use of the cultural referent was slightly reduced under the latter conditions. These findings are in agreement with the results of previous research (Barker, 1957; Lessler, 1964 (personal communication); Schonbar and Davitz, 1960; Richardson, 1967).

Extensive use of the cultural referent by subjects in all age groups may have been encouraged by the common cultural background between the original raters of the cultural referent and the subjects. The lack of independence between judges and subjects might have increased the number of symbols correctly identified on the basis of common cultural cues rather than because of the anatomical referent of the symbols (Lessler, 1964).

Cultural referents of the symbols, in addition, appeared to be quite obvious particularly in comparison to the anatomical referents. It would seem that some method of measuring the weights of cultural and sexual referents would be useful in clarifying the results of research similar to the present study. Jones and Lepson (1967) employed color as a different cultural referent, and discovered that the cultural referent was not necessarily dominant to the anatomical referent.

The present findings are in general agreement with those of Lessler, who found that the cultural referents of sexual symbolism (which involve mediated generalization) were frequently effective in determining response despite the simultaneous presence of incongruent Freudian referents. Lessler's data, however, appear to indicate that in such competing situations the cultural or non-Freudian referent is not simply effective, but is dominant, presumably because it is, "... socially acceptable, nonthreatening, and ... consensually valid," (Lessler, 1964, p. 46). The results of the present experiment, in contrast, show no evidence that either the mediated or primary basis of symbolism is dominant. The mediated basis, as it is represented in the present study appears to differ from Lessler's cultural referents principally in the absence of clearly established cultural stereotypes, or consensual validity, although the mediation presumably must be a cultural-linguistic product of some sort. Thus it appears that cultural referents are likely to be dominant only when the Ss have a clear understanding of their nature (Jones & Lepson, 1967).

Further prompting of a culturally-oriented response may have been elicited by the instructions given to older subjects, who were told that the symbols would be used to represent characters in a children's story. Since it was likely that subjects assumed the children referred to in the instructions would have a similar cultural background to their own, cultural referents of the symbols may have been emphasized. It is also likely that subjects with this set anticipated that children would more clearly recognize symbols on the basis of cultural cues rather than on the basis of anatomical cues. Instructions similar to those used in the present study were also employed by Barker (1957) with results similar to those found in this study.

Results of the present research, nevertheless, indicated the need to carefully reexamine the basis for the sexual interpretation of symbols produced by patients in psychotherapy, in dreams, and on projective tests. This conclusion is most relevant for subjects under the age of 16; however, it is also relevant for older subjects, since only 60% of the associations of subjects in the oldest age group were consistent with the Freudian hypothesis. Shape, as a cultural variable, may not be the only cultural basis for the interpretation of a symbol; Jones and Lepson (1967) have demonstrated that color is also an important dimension in the interpretation of symbols, while Lessler (1962) demonstrated that texture could also represent a relevant cultural variable. There is a wide variety of potential cultural cues that can be represented in geometrical forms when actual objects are considered.

In the studies which have supported the Freudian view, the stimuli were abstract forms rather than familiar objects, thus having no specific cultural meaning. It is possible that under these conditions, Ss utilized whatever associations were available to them, and that either similarity to sex organs as such or the knowledge that such a theory exists determined the responses, at least under direct testing. This is of interest, of course, as is the question of what other conditions might lead to similar determinations of sexual meaning; on the other hand, when dreams or responses to projective tests are being interpreted, the symbols involved are almost always objects rather than geometric forms (Schonbar and Davitz, 1960).

As Freud (1953) himself practiced, clinical interpretation of sexual symbols should be based upon a combination of the patient's individual associations to symbols in dreams or on projective tests, upon the application of Freudian theory, and upon the prevailing culture in which the patient resides.

It is clear that, if cultural factors determine sexual meaning, universality of meaning can exist only to the extent that cultural elements are similar or identical for large numbers of people. To understand sexual symbols for a given patient, therefore, individual associations may be made more meaningful by an understanding of the relationship of the symbol to sex role expectations in his particular cultural background. This view is in essential agreement with Fromm's (1951) statements concerning dream interpretations (Schonbar & Davitz, 1960).

Theoretical evidence supporting the universality of sexual symbolism in the form of objects resembling the shape of sexual organs of the sex symbolized (Freud, 1953), also did not appear in this study. There is a small, though consistent, use of shape as a basis for sexual symbolism in all age groups, but there is also considerable evidence to suggest that other variables besides shape may influence the type of symbol produced by an individual. Freud (1953), although emphasizing shape as a basis for sexual symbolism, also noted function, action, color, number and so on, as facilitators of a

symbol-referent connection. This hypothesis appears to have relevance in terms of the results of the present study.

The associations of the two sex groups and the oldest age group to the Freudian symbol group require further explanation and investigation. While both male and female subjects in the oldest age group responded to the Freudian symbol group in a manner consistent with Freudian theory, only female subjects responded to female Freudian symbols in this manner. In fact, male subjects responded to female Freudian symbols much less frequently than would be expected by chance. These findings contrasted with those of Lessler (1964) who found that male subjects sorted symbols with female Freudian referents significantly 'better' than female subjects, and female subjects sorted symbols with male Freudian referents somewhat 'better' than did male subjects. In the present study, taking all age groups into consideration, male subjects responded to symbols with male Freudian referents 'better' than female subjects, although both male and female subjects responded to symbols with male Freudian referents significantly 'better' than to symbols with female Freudian referents. The latter discrepancy significantly increased over the two trials of the experiment, and also lends support to trends in Lessler's (1964) data, of which he stated,

It appears that the masculine referent of the symbols whether Freudian or cultural, was more potent in determining the response to a symbol than the feminine referent. If validated this phenomenon may reflect a cultural male bias, or possibly some more dynamic formulation could be posited (Lessler, 1964).

Although the present study in general confirmed Lessler's

observation, a cultural male bias was not revealed in the overall response to geometrical figures without any specified sexual referent. Another explanation however, exists for the presence of what appeared to be a cultural male bias in associations to the Freudian symbol group; the circles used as female Freudian symbols may have been interpreted by subjects as some type of ball (e.g., baseball, basketball, football), and were thus responded to as male because of their cultural functions and implications. It would seem logical for subjects, to attempt to relate the geometrical figures presented to them, to familiar, everyday objects in their environment, with which they are concerned. This set might then have predisposed subjects to perceive circles as balls, or elongated objects as parts of knives, or sticks, any of which may have a predisposing cultural referent preferred to, or in opposition to the presumed Freudian referent.

There is no assurance, at the present time that male and female anatomical referents of the figures represent the same degree of stimulus generalization. Thus, it is possible that male referents were more heavily weighted than female referents, leading to more associations in accordance with Freudian theory to the elongated geometrical symbols. Jones (1961), and Lessler (1964), have both remarked that it was easier to conceive drawings of elongated geometrical figures, as opposed to rounded ones, suggesting, perhaps, that male Freudian symbols were in fact more obvious.

Another possible factor contributing to the apparent potency of the male sexual symbols is the greater intrusive quality,

separateness, or obviousness of the male genitalia as opposed to the less visible female genitalia. Psychoanalytic theory itself, emphasizes such theoretical concepts as 'penis envy' and 'castration complex,' while there are little or no Freudian terms which concern themselves directly with female sexual organs. Rickles (1950) commented that the quality of "theseness" may make the male genitalia more an object of comment or fear than the female genitalia.

Lessler (Addendum, 1964) speculated that the more accurate separation of male symbols from female symbols might reflect the fact that (1) this is a predominantly male-oriented culture; (2) in the population sampled (as in the present one), boys and girls were striving and competing in a "masculine" way; and (3) men are more stereotyped in our culture than women.

Lessler's (Addendum, 1964) reflections regarding the drawing of the geometrical figures also warrants attention in this connection.

Still another explanation about the apparent potency of male symbols was derived from the writer's observation that it was much easier to think of long male objects than round female objects when creating the symbols used in the present research. This problem may have occurred because the writer is male, although female colleagues seemed to have the same difficulty. If the writer's difficulties have any relationship to the relative prevalence of long-male vs. round-female objects, then one might attribute the more accurate sorting of elongated objects to the incidental learning or overlearning of this relationship.

It could also be hypothesized that male objects are more activity-oriented, aggressive in content, and "dynamic" in shape, and thus provide a significantly stronger stimulus than the more passive, static female objects. Willner (1952) found in a subception study

that elongated forms were recognized significantly faster than less elongated forms.

Older adolescents and adults, on the other hand, are more overtly concerned with sex in their environment (Acord, 1962), and have undergone a longer period of social learning or discrimination with respect to sexual cues and symbols; this perhaps explains their 'better' performance on the Freudian symbols. The finding that female subjects, in the oldest age group, are 'better' able to discriminate male versus female sexual cues, may reflect the fact that females reach puberty at an earlier age, and thus have had a longer period of social learning or discrimination with respect to their discrimination of sexuality.

The increased sexually symbolic response to the male Freudian symbols by females, in addition to the decreased sexually symbolic response to the female Freudian symbols by males, may also reflect more extensive control or defensiveness against sexual impulses by males. Some evidence in support of this conclusion was reported by Goldfried and Kissel (1963) in their study on the effect of age in the connotative perception of some animal symbols. Goldfried and Kissel (1963) stated,

Both boys and girls tend to be fairly similar in the expression of affective impulses. With increasing age both learn to exercise greater control of their impulses, though males are relatively more successful in achieving this control. Females, on the other hand, are more apt to show outburst of affect.

This particular finding, however, requires further investigation. In the second oldest age group, these findings were reversed in

that males responded more "appropriately" to both the male and female Freudian symbols, while female subjects tended to associate femininity to both male and female Freudian symbols.

There was no overall difference in the degree to which males or females responded in accordance with Freudian theory to the Freudian symbol group. Sex differences have been reported, however, in other studies, which suggested that males associate to geometrical figures more in accordance with Freudian theory than females (Jones, 1956; Starer, 1955; Winter & Prescott, 1957). The hypothesized reason for this difference was that females tend to be more socially inhibited than males (Jones, 1956). In the present study females made a greater number of sexually symbolic responses than males, although this difference was not significant. This result supports recent studies (Jones & Lepson, 1967; Lessler, 1964) which also revealed no significant differences in the degree of sexual response by either sex.

The most widely employed methodology for empirical testing of the Freudian theory of sexual symbolism, used in this study, appeared to have weaknesses which rendered a true test of the hypotheses difficult. These weaknesses included: the difficulty in constructing and selecting geometrical figures to symbolize male or female sexual anatomy in which the strength of the referent is equal in each symbol; the difficulty in constructing and selecting geometrical figures with two referents, anatomical and cultural, in which both referents have equal strength to elicit an 'appropriate' response; and the difficulty in interpreting responses because of a forced choice response paradigm.

Use of a forced-choice response technique in research of this type limits the interpretation and generality of the results. It is possible that some subjects might respond to symbols in the Freudian group in a non-sexual response category. DeWit (1963) requested adolescent and adult subjects to free associate in written form to presumably symbolic words (i.e., apple, three, banana), and found few responses which were classifiable in terms of gender. Associations of subjects to symbols with two incongruent referents may also be difficult to interpret, unless there is some method of premeasuring the strength of both referents to assure that each has an equal chance of being selected. In the present study, it was believed that the cultural referents were quite obvious, and thus, perhaps, more readily apparent than the shape of the geometrical figures. Jones and Lepson (1967), as indicated above, have already provided evidence that in a 'competing' situation, both the primary (anatomical) and the mediated (cultural) basis of symbolism were equally effective in determining responses.

It is worthwhile to note that in many of the studies which have provided empirical evidence against Freud's theory of fixed symbolism, actual objects (i.e., snail, fish) were employed to test the hypothesis (Barker, 1957; Schonbar and Davitz, 1960). In the studies which provided evidence favoring the Freudian hypothesis (Lessler, 1964; Richardson, 1967), geometrical figures were used to test the hypothesis. The present study employing geometrical figures produced equivocal findings, although statistically they favored the Freudian

hypothesis. Some thought thus might be given to what appears to be a differential symbolic response to geometrical versus "real" figures. It might be speculated in this connection, that geometrical figures allow less room for cultural influences than actual objects, in spite of attempts by authors to reduce the cultural significance of the latter. If this is so, then geometrical figures provide a truer test of the Freudian hypothesis, and should be incorporated in future research testing this hypothesis.

There is also need to investigate the manner of interpreting either positive or negative results in research in the area of Freudian sexual symbolism. There seems to be a tendency in the literature to use Freudian theory to explain any contingency in the data, so that negative results are interpreted in Freudian terms, as a manifestation of a defense against the overt expression of sexual impulses, rather than in terms of the hypotheses forwarded; that is, as evidence for the lack of validity of the Freudian hypothesis regarding sexual symbolism. Thus Lessler (1964) stated,

The results of the present study are believed to provide construct validation for an impulse-defense paradigm for predicting the response to symbols based on a psychoanalytic model. It was assumed that if a symbol had two referents the Freudian referent would represent the impulse more directly than the cultural referent and, therefore, would be defended against. As the ambiguity of the cultural stimulus is increased, the possibility of becoming aware of the impulse would also increase. Hence these should be a less consistent sorting of the symbols by their cultural referents; i.e., there should be greater defensiveness. The demand for defense would also be increased by an incongruity between the cultural and Freudian referents of a symbol, and, therefore, it would be expected that although the symbols would be sorted according to the cultural referent when it is perceptible, the presence of the incompatible Freudian referent would disturb the accuracy of the sort.

Finally, it was predicted that when the cultural referents of the symbols were minimized, they would be sorted in respect to their Freudian symbol referents. The results were completely compatible with these predictions (Lessler, 1964).

A survey of the existing literature, including the present study, suggests that Freud's theories regarding symbols used to express sexuality may lack validity for children and early adolescents, (Barker, 1957; Levy, 1954) if the methodology used in this literature is accepted as a true test of these theories. On the other hand, it is also apparent, from the present literature that the Freudian hypotheses concerning sexual symbolism may have validity for older adolescents, and adults (Lessler, 1964; Richardson, 1967; Jones & Lepson, 1967). Richardson (1967) has also provided some evidence to support Freud's notion of the universality of sexual symbolism, in a cross-cultural study with adult subjects. This type of study, however, needs further exploration with many more and larger cultural samples. Thus, if a conclusion is to be made from research concerned with Freud's theories of sexual symbolism it is that subjects in late adolescence, and adulthood are likely to use anatomical shape as a basis for symbolizing sexual impulses; subjects under 16 years of age may not ordinarily employ such a procedure.

Methodological suggestions can also be offered at this time. Forced choice responses should be avoided, and subjects should be given a "can't answer" or "don't know" response category, regardless of the possibility of thereby encouraging defensiveness or repression on the part of subjects; if this is not provided interpretations of the data will be somewhat restricted. An attempt should be made to measure the

relative strength or "weightedness" of male, female, and cultural referents of geometrical figures; this is most relevant with respect to cultural referents which in previous research have seemed particularly obvious, in contrast to the anatomical cues.

It is also suggested that new means of investigating the nature of the sexually symbolic response be considered. Future research might consider the possibility of requesting subjects to create or draw their own geometrical figures to symbolize masculinity or femininity. It would also be worthwhile to investigate the possibility of employing a Semantic Differential Scale (Osgood, C. E., Suci, G. J., and Tannenbaum, P. H.) to evaluate the sexual content of symbolic stimuli. Such a procedure was employed by Goldfried (1963), and Goldfried and Kissel (1963), in their research investigating the connotative perceptions of some animal symbols.

In addition to methodological changes, it might also prove worthwhile to vary subject samples in research in the area of sexual symbolism. Psychiatric samples have been already investigated for their sorting of sexual symbols (Jones & Lepson, 1967), as have various cultural groups in addition to the present one (Richardson, 1967). Further research is however, required before conclusions can be made with reference to these samples. However, with respect to the samples generally employed in research in this area of study, sex and age, have been the only independent variables which have been systematically investigated. Although Freud's theory of sexual symbolism was purported by Freud to have universal implications, the present,

existing research has already indicated that age may to some extent determine the type of symbol used by an individual. There is thus reason to speculate about the possible effects of intelligence, socio-economic status, race, religion, level of education, etc., on the nature of sexual symbolism. Thus, one could attempt to determine whether subjects of lower economic status respond not only to anatomical cues, but, also compare their recognition or lack of recognition of cultural referents with that of subjects from higher economic backgrounds. Recognition of the value of this type of research appears warranted particularly, in view of the limited generality of the research thus far reported.

CHAPTER V

SUMMARY

The purpose of the present research was to investigate Freud's theories concerning the universal tendency for individuals to symbolize masculinity in objects with an elongated or pointed shape and to symbolize femininity in objects with a rounded or containing shape. Previous research in general, indicated that Freud's theory of sexual symbolism had validity, particularly for older subjects; however, symbols used in these studies were contaminated by the presence of a cultural referent, which may have influenced the nature of the subject's associations. The limited number of studies which controlled for the cultural referent, or compared the strength of the cultural referent with the strength of the Freudian referent, revealed that Freudian theory of sexual symbolism had relevance only for subjects of adult age, and revealed that the cultural referent was more frequently the basis of the associations of subjects than the Freudian referent.

Fifteen males and fifteen females were selected to fit each of seven different age groups. The mean of each age group was 4.3, 5.6, 7, 9.6, 12, 15.2, and 19.5 years. Subjects were seen individually and shown forty geometrical figures or symbols drawn in India ink on three by five, white note cards. Symbols were presented to each subject twice in succession, in two different random orders; each subject was shown the symbols in the same random orders. There were four

groups of ten symbols: Symbol Group 1 contained symbols with either a male or female Freudian referent; Symbol Group 2 contained symbols with both a cultural and Freudian referent, in which the sex of the referents were congruent; Symbol Group 3, contained symbols with both a cultural and Freudian referent in which the sexes of the referents were incongruent; Symbol Group 4 contained symbols with no sexual referent. Subjects under ten years of age were asked if the symbols reminded them more of a "mommy or daddy, boy or girl"; subjects over ten years of age were told that the symbols would be used to represent characters in a children's story, and asked whether they might best represent masculinity or femininity. Number of 'correct' responses by each subject for each symbol group was used as the dependent variable.

Results on the four dependent variables were then subjected to a four factor analysis of variance, repeated measures design. Symbol Group 1 was then divided into two separate groups, five male symbols, and five female symbols, and the number of 'correct' responses by each subject for the two symbol groups was used as the dependent variable. Results on these two dependent variables were then submitted to a four factor analysis of variance, repeated measures design.

Findings indicated that the Freudian theory of sexual symbolism was valid for subjects in the oldest age group. Although the other age groups responded 'correctly' to Freudian symbols slightly above fifty per cent, the statistical significance of this result was judged to be largely due to the size of the sample tested (420).

Cultural referents were easily recognized by subjects in all age groups, and were also chosen in preference to the Freudian referent when a symbol contained two conflicting referents. It was believed, however, that the cultural referent was more heavily 'weighted' than the Freudian referent, and that instructions to older subjects may have biased subjects to choose the cultural referent. Although sex of the subject had no overall effect on associations to the symbols, symbols with male Freudian referents were recognized significantly more than symbols with female Freudian referents. Male subjects responded more 'correctly' to male Freudian symbols than females, and female subjects responded more 'correctly' to female Freudian symbols than males.

The Freudian theory of sexual symbolism with respect to young adolescents and children was not substantiated in this study. With regard to all subjects, a sexual symbol could best be interpreted through knowledge not only of Freudian theory, but knowledge also of the cultural and personal background of the symbolizer. Criticism was offered in connection with the methodology used in research involving Freudian symbolism, and suggestions for future research were made. Suggestions presented, included the possibility of allowing subjects to create their own symbols of masculinity and femininity, and the possibility of employing a Semantic Differential Scale in conjunction with the rating of the sex of a symbol.

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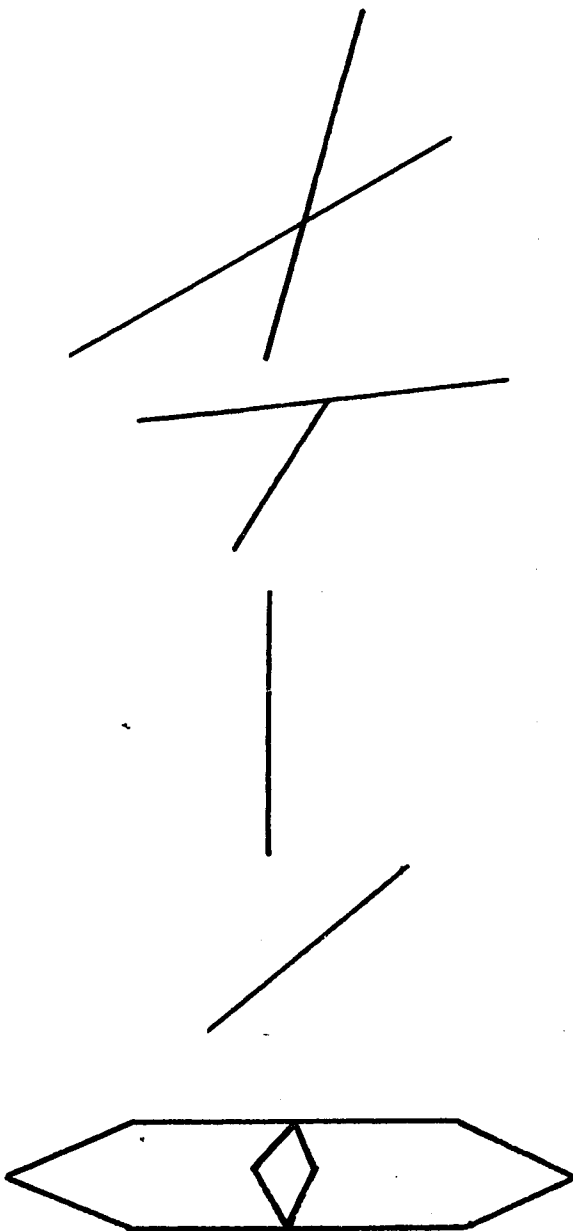
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APPENDIX

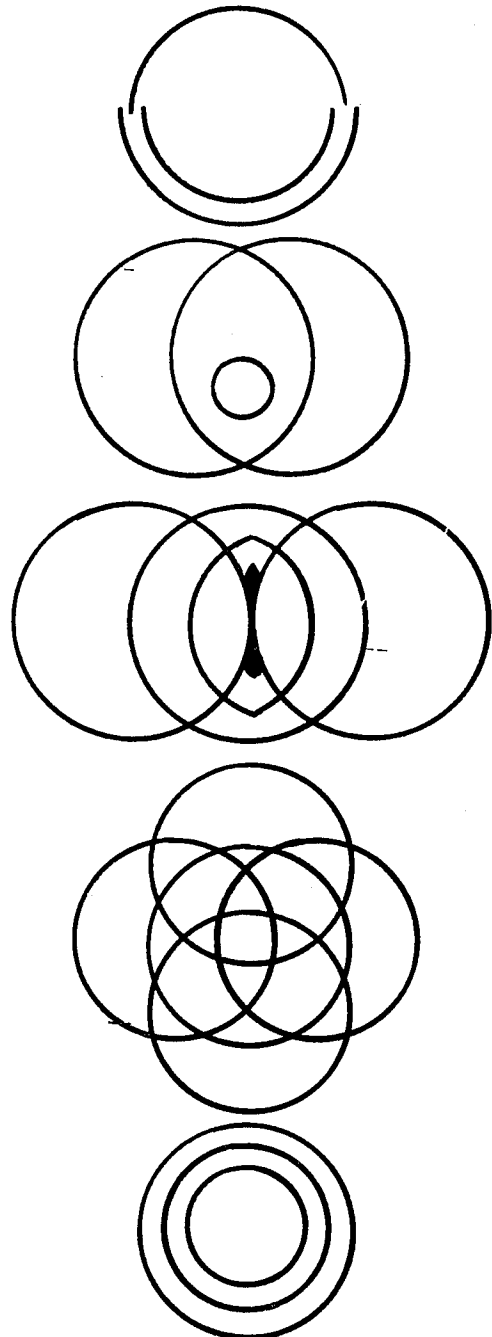
APPENDIX I

FREUDIAN SYMBOL GROUP
(SYMBOL GROUP I)

Male Symbols

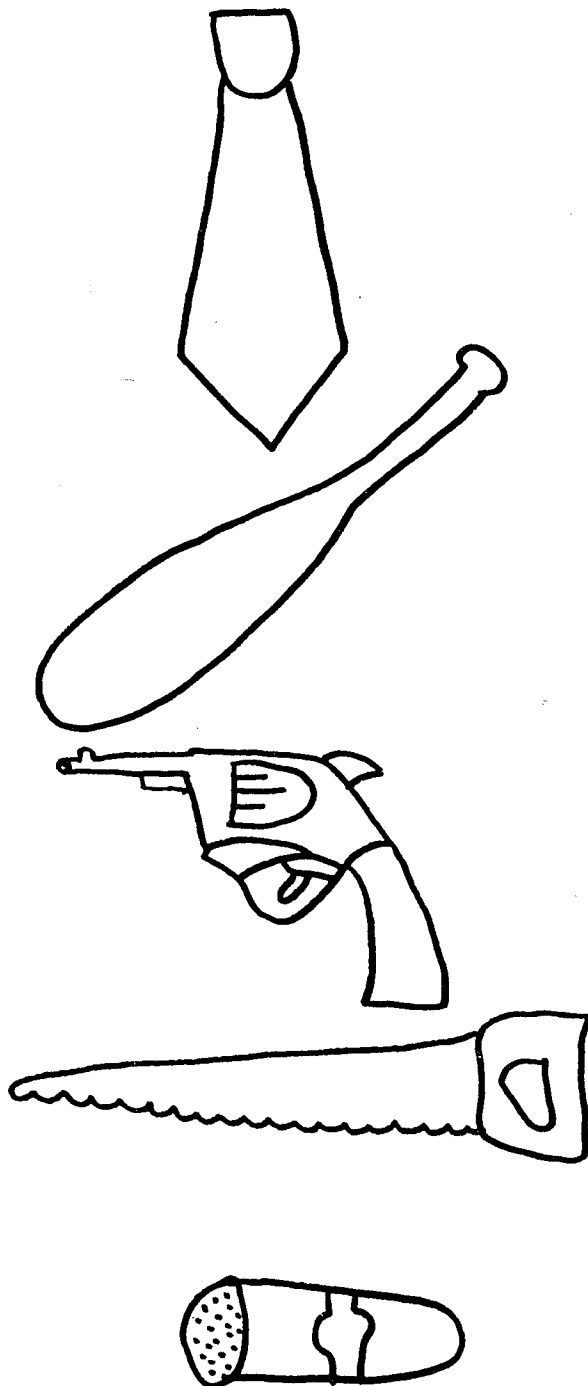


Female Symbols

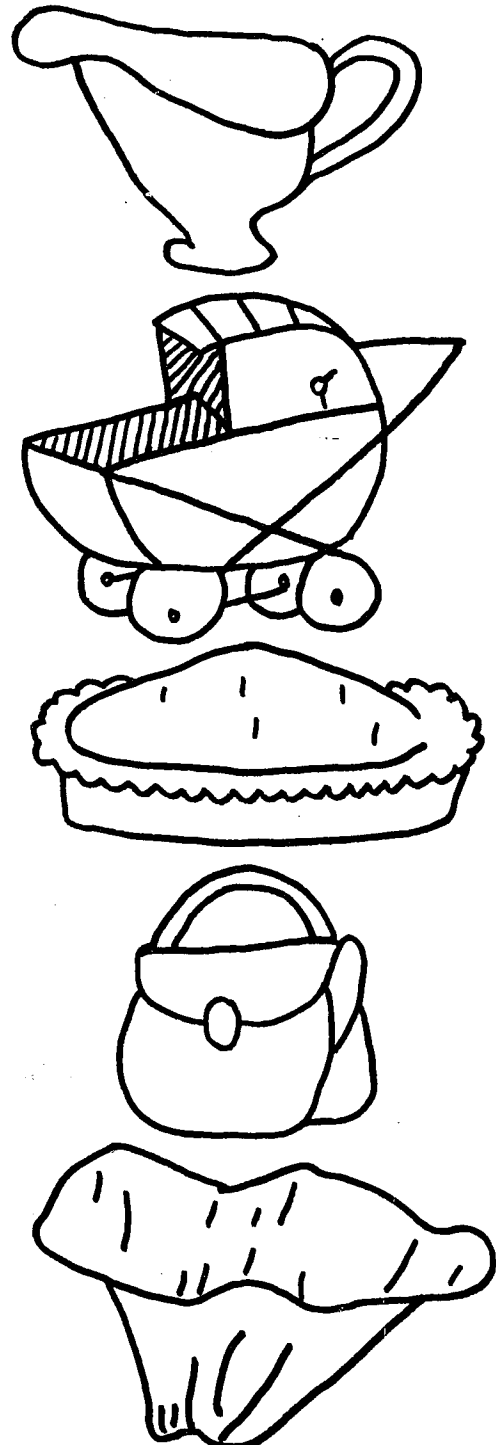


(SYMBOL GROUP II)

Male Freudian,
Male Cultural Symbols

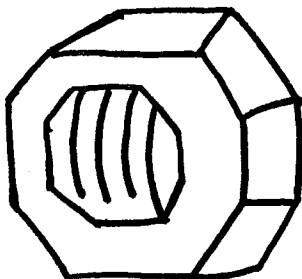
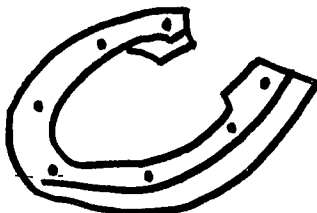
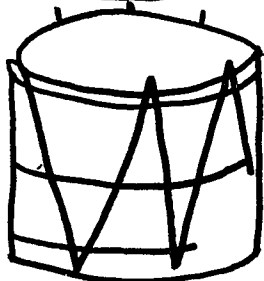
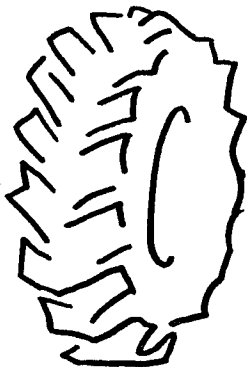
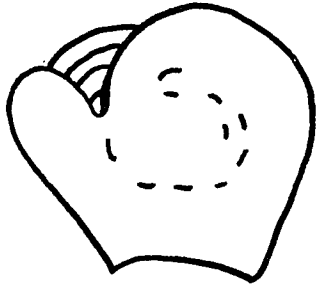


Female Freudian,
Female Cultural Symbols

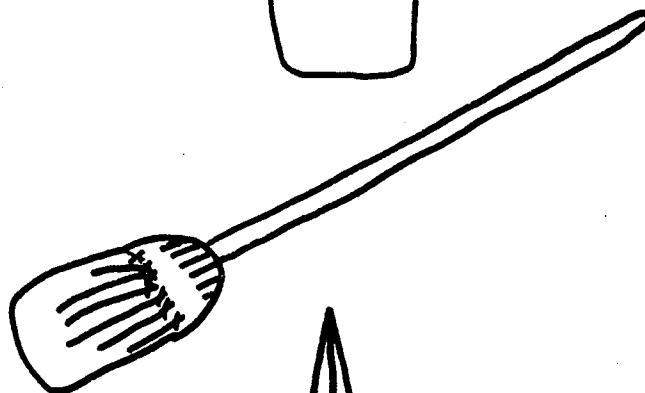


(SYMBOL GROUP III)

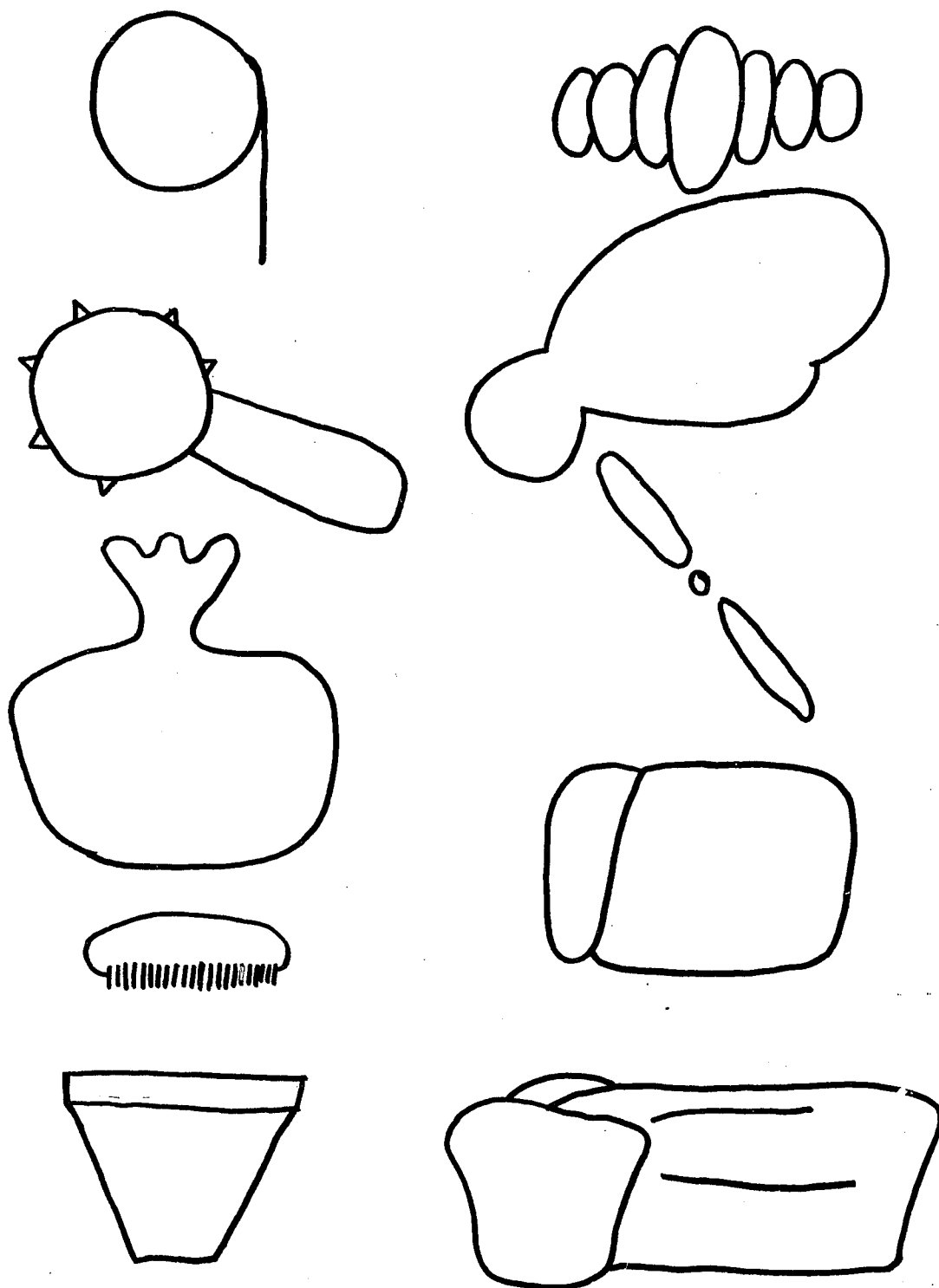
Male Cultural,
Female Freudian Symbols



Female Cultural,
Male Freudian Symbols



AMBIGUOUS SYMBOL GROUP
(SYMBOL GROUP IV)



VITA AUCTORIS

Kenneth Samuel Solway, son of Gertrude and Alex Solway, was born on February 12, 1940, in Windsor, Ontario, Canada. He attended Patterson Collegiate Institute, Windsor, Ontario and was graduated in 1957.

He entered Assumption University of Windsor, Windsor, Ontario, Canada, and received the degree of Bachelor of Arts in June, 1960. In May, 1962, he was granted the degree of Master of Arts at the University of Windsor, Windsor, Ontario, Canada. In 1963, he served as a Staff Psychologist for the Ontario Hospital, London, Ontario, Canada, and in 1964 he served as a Staff Psychologist for the Catholic Children's Aid Society, Toronto, Ontario, Canada. In September, 1964, he enrolled in the graduate school of Louisiana State University where he became a candidate for the degree of Doctor of Philosophy.

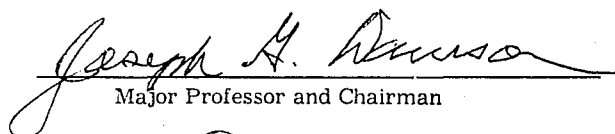
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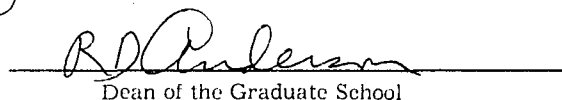
Candidate: Kenneth Samuel Solway

Major Field: Psychology

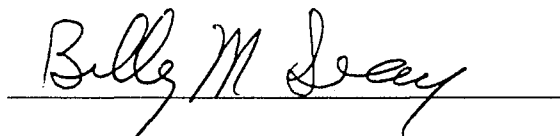
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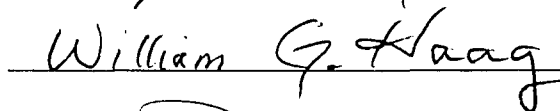
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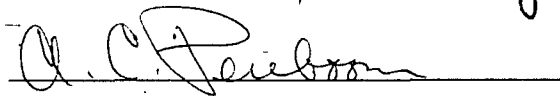

Major Professor and Chairman

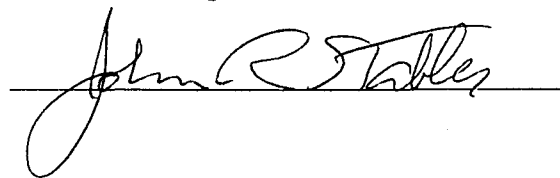

Dean of the Graduate School

EXAMINING COMMITTEE:









Date of Examination:

15 July 1968